

1,5-Naphthyridine metal complexes - for prodn. of singlet oxygen in photo-dynamic tumour therapy, or for sensitising photopolymerisation initiation and electro-photographic copier layers

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Equivalents:

Abstract

1,5-naphthyridine metal complexes of formula (I) are new. In (I) R1 and R2= each 1-20C alkyl opt. substd. with Ph, opt. substd. Ph, naphthyl or 3-7C cycloalkyl or R1 and R2 together form 3-6C alkylene or an annellated benzo or naphtho ring which is opt. substd.; Y1 and Y2= each H or ML1L2, providing at least one of Y1 and Y2 is ML1L2; X= O or S; M= a metal of gp. IB or VIII; L1 and L2= each halogen, nitroso, 1-8C trialkyl phosphine, opt. substd. triphenyl phosphine, CN, carbonyl, cyclopentadienyl bonded via pi-electrons and opt. penta-substd. with Me, allyl bonded via pi-electrons; or L1 and L2 together form 2,2'-bipyridyl. USE/ADVANTAGE - (I) can be used to produce singlet oxygen in the presence of oxygen, when irradiated and are therefore suitable for photodynamic therapy of tumours. (I) are readily soluble in organic solvents and can act as sensitisers for initiation of photopolymerisation, as sensitisers in electro-photographic copier layers and as redox catalysts in organic reactions. (I) are simple to prepare.

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